

Operating instructions offshore chain slings acc. DNV 2.7-1 and DNV 2.7-3  
**NORM 8 (grade 8) and ENORM 10 (grade 10)**

**General principles regarding the utilisation of lifting accessories and their components:**

*The operating instructions are to be stored together with the certificate and the EC declaration of conformity.*

The falling of loads, caused by the failure and / or incorrect utilisation and handling of lifting equipment or its individual parts constitutes a direct risk to the life or health of the people who are present in the danger zone of lifting processes.

These operating instructions contain information with regard to the safe utilisation and handling of the lifting accessories and their components. Before using the lifting equipment, the assigned persons are to be briefed with regard to handling and utilisation by a qualified person.

The following principles apply:

- The Working Load Limit (WLL) (see label) of the lifting equipment must correspond to the load. The lifting equipment may not be used if the label is missing or is illegible.
- No danger areas (e.g. crushing points, cutting points, trapping or impact points) may occur that may hinder or endanger the person carrying out the slinging process and / or the transport.
- The base material and the constructive design of the load must be able to hold the applied forces without deformation.
- Stress that leads to a non-uniform load distribution, e.g. which is caused as a result of an off-centre introduction of force must be taken into account when selecting the lifting accessories and their components.
- In the event that extreme stress or strong dynamic strain (shock influences) may occur, this must be taken into account when selecting the lifting equipment and the working Load Limit (WLL).
- The lifting equipment may not be used for the transportation of persons. No persons are ever permitted to remain present in the danger area of a suspended load.
- The lifting equipment may not come into contact with acids and other aggressive agents. Attention must also be paid to the fact that acid fumes may occur in certain production processes.
- Never make unauthorised amendments to the lifting equipment (e.g. grinding, welding, bending, and attachment of parts)!
- The lifting equipment may not be exposed to any forbidden manipulation of temperature.
- Only original replacement parts may be used.
- The relevant additional regulations must be observed when transporting hazardous substances.
- Lifting accessories and their components must be stored in such a manner that they are protected against being damaged and do not cause any danger.
- If damaged, the lifting equipment must be immediately taken out of circulation and must undergo maintenance work.
- When ready to be discarded, lifting accessories and their components are to be correctly disposed of. Attention: Any substances present that are hazardous to the environment (e.g. greases and oils) are to be disposed of separately.

**Attention: In the event of violation, the operating permission will become void.**

**1. Temperature use**

In each individual case special attention has to be paid to the maximum temperature which the components for slings are exposed to. The influence of higher temperatures on the working load limit (WLL) of various grades of lifting equipment is stated in Table 1. After cooling down to a temperature beneath 200 °C, one can again work with WLL of 100 % for both grade 8 and grade 10 chain slings. If **NORM 8** or **ENORM 10** slings are exposed to temperatures above 400 °C, slings must be discarded. It is not permitted to use these slings again.

**Table 1**

Temperature range in °C	WLL <b>NORM 8</b> (grade 8)	WLL <b>ENORM 10</b> (grade 10)
	in %	in %
Design temperature - plus 200 °C	100	100
plus 200 °C - plus 300 °C	90	90
plus 300 °C - plus 400 °C	75	75

*Notice: grade 8 and 10 lifting equipment may not be used at temperatures above 400 °C.*

**2. Utilisation of the sling chains**

The regulations of DNV 2.7-1 / respective country-specific directives are to be observed when sling chains are used.

**2.1 Bringing into service – before the first time use**

Before the lifting equipment is used for the first time, it has to be ensured that:

- The lifting equipment exactly corresponds to the order;
- The testing certificates are present (acceptance test certificate, declaration of conformity, etc.);
- The labeling and working load limit (WLL) details on the lifting equipment correspond to the details on the test certificates (see Tables 1 and 2).

**2.2 Handling of the load**

Before each use, the lifting equipment has to be inspected for evident defects or characteristics of wear. Proceed according to the maintenance guidelines in the event that damage is observed (see Point 5).

- The weight of the load must be known.
- The centre of gravity of the load must be known.
- Chain slings are always to be deployed with a straight leg. They are not permitted to be twisted and must not display kinks or knots.

**3. Storage of lifting equipment**

Lifting equipment not in use should be stored on a frame that is intended for this purpose. After usage, the equipment should not be left lying on the floor as it can be damaged there.

The lifting equipment is to be protected against corrosion in the event that it is not expected to be used in the near future.

**4. Inspection and maintenance**

On a regular basis before being used, lifting equipment is to be closely inspected with regard to correct utilisation and faultless condition (e.g. absence of strong corrosion and deformation, etc.), for example by the person carrying out the slinging process. Defective lifting equipment may not be used. Cleaned slings has to be tested at least once a year by a qualified person whilst taking the relevant standards (EN 818-6) and trade association regulations (e.g. DNV 2.7-1) into account.

At intervals not exceeding 48 months cleaned chain sling must be tested by a qualified person using a proper testing device in order to check that the product is free of cracks. JDT recommends a magnetic particle inspection.

The user must observe the results of the risk assessment in accordance with the occupational safety directives. The re-testing period is shortened in the event that the products are exposed to critical operating conditions. Inspection records are to be kept.

The testing coefficient (EC-Machinery Directive 2006/42/EC Point 4.4.1) is defined according to the standards DIN EN 818 ff. / PAS 1061 and / or DIN EN 1677 ff.

In the event that the following defects occur, the lifting equipment is to be taken out of circulation immediately and sent for maintenance:

- Labelling concerning working load limit or proof of identity of the lifting equipment is illegible or is missing.
- Deformation of master links, chain or components for slings (Figure 1).
- Inadmissible wear or elongation of individual chain links is present for example, in the event that the nominal dimension of the inner length has been exceeded by 5 %, which meet an outside elongation of 3 % (Figure 2).
- Reduction of the mean chain link thickness at any point of >10 % (Figure 3).
- Clear length differences in the chain legs when dealing with multi-leg chain slings.
- Damage such as: cuts, indents, grooves, linear cracks, excessive corrosion, discolouration caused by the impact of heat, bent or twisted chain links or other faults.



Figure 1

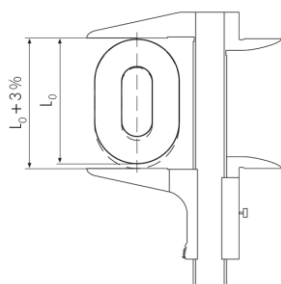


Figure 2

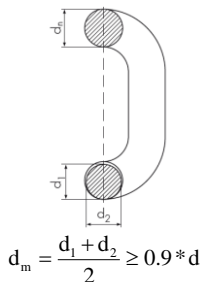


Figure 3

### 5. Maintenance

The maintenance must be carried out by an expert. Chains and components that are ready to be discarded must be replaced. The entire chain leg is to be replaced even if only one chain link has to be discarded. The maintenance of welded sling chains may only be carried out by the manufacturer. In the event that bolts have to be replaced, only new original bolts and safety elements may be used.

### 6. Documentation

Records of regular testing (Point 5) and maintenance (Point 6) are to be documented. JDT offers professional support with this work as well as the >SERVICE< PC program that electronically captures and manages the lifting equipment.

### 7. Conformity Declaration

EG-Konformitätserklärung  
 EC Conformity Declaration  
 Déclaration de conformité CE  
 EG-Conformitätsverklärung  
 Declaración de conformidad CEE  
 Dichiarazione di conformità CE  
 EY-yhdenmukaisuustodistus  
 EF-Överensstemmelseerklæring  
 EG-Konformitätsförläring

Der Unterzeichnende, bevollmächtigt von der  
 The undersigned, empowered by  
 Le soussigné, mandataire de  
 De ondergetekende, gemachtigde van de firma  
 El suscrito, autorizado por la  
 Il sottoscritto, delegato dalla  
 Allekirjoittanut, yhtilön  
 Den undertegnede, befuldmægtiget af  
 forklarar undertecknad, bemyndigad av

J. D. Theile GmbH & Co. KG, Postfach 18 29, D-58213 Schwerte

Im Sinne der EG Richtlinie Maschinen 2006/42 EG und weiter ergänzender Richtlinien.  
 As defined by the EC Guideline Machines 2006/42 EC and other complementary guidelines.  
 Dans le sens des directives CE Machines 2006/42 CE et des directives complémentaires.  
 Overeenkomstig de EG-richtlijn Machines 2006/42 EG en verdere aanvullende richtlijnen.  
 Conforme a la Directiva CE de Máquinas 2006/42 CE y otras Directivas suplementarias.  
 Ai sensi della direttiva CE sulle macchine 2006/42 CE e altre direttive integrative.  
 Koneista annetun EY-direktiivin 2006/42 EY ja muiden lisädirektiivien tarkoittamassa mielessä.  
 I overensstemmelse med EF-retningslinje maskiner 2006/42 EF og videre supplerende retningslinjer.  
 I enlighet med EG:s Maskindirektiv 2006/42 EG samt vidare kompletterande direktiv.

erklärt, daß das (die) umseitig bezeichnete(n) Anschlagmittel in der von uns in Verkehr gebrachten Ausführung bei bestimmungsgemäßer Benutzung mit den grundlegenden Sicherheits- und Gesundheitsanforderungen übereinstimmen.

declares that sling gear, listed overleaf, conform in its marketed design with the requisite basic safety and health requirement, provided they are used in accordance with their intended purpose.

déclare que le matériel de levage décrit au verso et employé conformément aux prescriptions, dans l'exécution mise en circulation par nos soins, est conforme aux exigences fondamentales de sécurité et de santé.

verklaart dat de op de achterzijde aangegeven aanslagmiddelen in de door ons in het verkeer gebrachte uitvoering bij doelmatig gebruik met de principiele eisen omtrent veiligheid en gezondheid overeenstemmen.

declara que el/(os) dispositivo(s) de suspensión mencionado(s) al dorso en la forma lanzada al mercado concuerdan con los requerimientos básicos impuestos a la seguridad y a la salud bajo la condición de una aplicación de acuerdo con los fines previstos.

dichiara che il/(i) dispositivo(i) di arresto definito(i) a tergo, nel modello da noi distribuito, se usato(i) nel modo dovuto risponde (rispondono) ai requisiti basilari di sicurezza e sanità.

vakuuttaa, että kääntöpuolella mainittu/tut kiinnitysväline/et myyntiin tuomassamme muodossa ja sit/iitä asianmukaisesti käytettynä ovat perustavanlaatuisen turvallisuus- ja terveysvaatimusten kanssa yhdenmukaisia.

erklærer, at det (de) omstændige anslagsmiddel (-midler) i den udførelse, som vi har givet den ud, ved bestemmelsernes benyttelse stemmer overens med de grundlæggende sikkerheds- og sundhedskrav.

att det (de) på omständiga sida uppförda anslagmedlet (-medlen) i det av oss sålda utförandet vid ändamålsenlig användning överensstämmer med de grundläggande kraven beträffande säkerhet och hälsa.

EG-Richtlinien	EG Richtlinien Maschinen geändert durch	} 2006/42 EG	Harmonisierte Normen	} EN ISO 12100
EC Guidelines	EC Guideline for Machines amended by		Harmonized standards	
Directives CE	Directives CE Machines modifiées en		Normes harmonisées	
EG-richtlijnen	EG-richtlijn machines gewijzigd door		Overeenkomstige normen	
Directivas CEE	Directiva CEE "Maquinas" modificada por		Normas armonizadas	
Direttive CE	Direttive CE sulle macchine cambiate con		Norme armonizzate	
EY-direktiivit	Koneista annettu EY-direktiivi muutettu direktiivillä	Harmonisoidut standardit		
EF-retningslinier	EF retningslinje maskiner forandret gennem	Harmoniserede normer		
EG-Direktiv	EG:s Maskindirektiv ändrat genom	Harmoniserade standarder		

- EN 818-1
- EN 818-2
- EN 818-3
- EN 818-4
- EN 818-5
- EN 818-6
- EN 818-7
- EN 1677-1
- EN 1677-2
- EN 1677-3
- EN 1677-4
- EN 1677-5
- EN 1677-6
- EN 13889
- EN 13155

Angewendete nationale Normen  
 Applied national standards  
 Normes nationales appliquées  
 Toegepaste nationale normen  
 Normas nacionales aplicadas  
 Norme nazionali applicate  
 Sovelletut kansalliset standardit  
 Brugte nationale normer  
 Nationella normer som tillämpats

DIN 685-2	DIN 5688-1	DIN 5687-1	DIN 695
DIN 685-3	DIN 5688-3	PAS 1061	DIN 32891
DIN 685-4	DIN 5692		DIN 766
DIN 685-5			DIN 764-1
			DIN 764-2

Aberspach / Qualitätsmanager  
 Unterschrift

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Translation of the original operating instructions  
 In case of doubts or misunderstanding, the German version of the document is decisive.